

external cavity laser 10 is not in use. As shown heat source 54 comprises a thermoelectric controller coupled to gain medium 12. Thermoelectric controller 54 may also be used during operation of gain medium 12 to thermally control the optical thickness across gain medium 12 between facets 16, 18. One or more additional heating elements (not shown) may be positioned internally or externally to the hermetically sealed enclosure 11 to maintain elevated temperatures for selected components to prevent condensation of contaminants thereon. Thus, heating may be used in connection with the end mirror 14 or channel selector 26 to maintain a temperature higher than the activated carbon drain 48, moisture trap 50 and/or the sacrificial surface 52, to prevent the contamination of optical surfaces 32, 34. The selective heating of critical optical components and optical surfaces in an external cavity laser is also described in U.S. Patent Application Ser. No. 09/900,429 entitled "External Cavity Laser with Selective Thermal Control" to inventors Daiber et al., co-filed herewith and incorporated herein by reference.

Please delete paragraph 56 and replace with:

Various other optical components may be subject to selective thermal control by mounting onto substrate 92 or onto other thermally controlled substrates (not shown). For example, grid generator 24 and/or a coarse spectrometer (not shown) may be positioned on substrate 92. Selective thermal control of optical components in an external cavity laser is also described in U.S. Patent Application Ser. No. 09/900,429 entitled "External Cavity Laser with Selective Thermal Control" to inventors Daiber et al., co-filed herewith and incorporated herein by reference.

In the Claims:

The claims are amended as follows. Please add new dependent claim 38.

1. (Amended) A laser apparatus, comprising an external cavity laser having an external cavity and a laser source therein, and a hermetically sealable container configured to enclose said external cavity laser in an inert atmosphere.

4. (Amended) The apparatus of claim 3, wherein said laser source comprises a gain medium having first and second output facets, said second output facet having an anti-reflective coating thereon.

5. (Amended) The apparatus of claim 4, wherein said external cavity laser further comprises an end mirror, said end mirror and said first output facet of said gain medium defining said external cavity, said gain medium to emit a beam from said second output facet along an output path.

6. (Amended) The apparatus of claim 5, further comprising a tuning assembly operatively coupled to said end mirror and configured to adjust said end mirror, in said hermetically sealable container.

7. (Amended) The apparatus of claim 3, wherein said external cavity laser further comprises a grid generator.

8. (Amended) The apparatus of claim 1, wherein said external cavity laser further comprises a channel selector.

9. (Amended) The apparatus of claim 8, further comprising a tuning assembly operatively coupled to said channel selector and configured to adjust said channel selector.

12. (Amended) The apparatus of claim 1, wherein said inert atmosphere comprises a gas selected from nitrogen, helium, neon, argon, krypton, xenon, a nitrogen-helium mix, a neon-helium mix, a krypton-helium mix, or a xenon-helium mix.

13. (Amended) The apparatus of claim 3, further comprising an optical fiber extending into said hermetically sealable container and positioned to receive optical output from said external cavity laser, and a fiber feedthrough, configured to hermetically seal said optical fiber.

22. (Amended) A method for fabricating an external cavity laser, comprising:  
(a) providing an external cavity having a laser source therein; and

- (b) hermetically sealing said external cavity laser in an inert atmosphere within a hermetically sealed container.

23. (Amended) The method of claim 22, wherein said laser source comprises a gain medium having an anti-reflective surface thereon, and said external cavity comprises an end mirror positioned in an optical path defined by a beam emitted from said gain medium.

24. (Amended) The method of claim 23, further comprising providing a tuning assembly operatively coupled to said end mirror and configured to adjust said end mirror.

25. (Amended) The method of claim 22, further comprising providing a grid generator within said external cavity.

26. (Amended) The method of claim 22, further comprising providing a channel selector within said external cavity.

27. (Amended) The method of claim 26, further comprising providing a tuning assembly operatively coupled to said channel selector and configured to adjust said channel selector.

29. (Amended) The method of claim 22, further comprising vacuum baking at least one outgassing component of said external cavity laser prior to said hermetically sealing.

33. (Amended) A laser apparatus, comprising:

- (a) an external cavity laser having an external cavity and a laser source therein; and
- (b) means for hermetically sealing said external cavity laser in an inert atmosphere.

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38. (New) The laser apparatus of claim 1, further comprising a sacrificial surface within said hermetically sealable container, said sacrificial surface to be maintained at a temperature less than surrounding surfaces.